**Asexual Reproduction**

How might cell division differ in single celled organisms?

Why do multicellular organisms use cell division?

1\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What is the result of cell division in multicellular organisms?

While these are separate cells they do not live independent lives. For example, your skin cells cannot survive on their own.

How can we be sure that skin cell cannot live on their own?

OR

What evidence can you think of to prove skin cells cannot survive on their own?

(Remember we shed thousands of skin cells every minute!)

What are the two steps of Cell Division?

1.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

In multicellular organisms, Mitosis and Cytokinesis, are not considered reproduction.

Because you are a multicellular organism, you have genetic information from both your mother and father. This is known as Sexual Reproduction. But unicellular organisms can reproduce without genetic material from another unicellular organism.

This is known as… … …

**Asexual Reproduction** – When ONE organism produces one or more offspring that has the same genetic material.

**Sexual Reproduction** – When genetic information from a male AND a female combine to form offspring.

Cell division is an important part of both **Sexual** and **Asexual Reproduction**.

|  |  |
| --- | --- |
| **Asexual Reproduction** | **Sexual Reproduction** |
| Cell Division | Cell Division and other processes |
| One parent organism | Two parent organisms |
| Rapid rate of reproduction (Bacteria) | Slower reproduction rate than Asexual |
| Offspring identical to parent | Offspring have genetic info from both parents |

Single celled organisms are either \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and have a nucleus or

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and do not have a nucleus. Both use **Asexual Reproduction**.

Eucaryotic cells undergo **Cell Division** just like the cells in our body; except in this case, they do so for reproduction.

Procaryotic cells must undergo **Binary Fission** in order to reproduce. In this process the parent cell splits into two, producing 2 completely identical daughter cells.

Other forms of **Asexual Reproduction** include… … …

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - When a new organism develops as a small bud, growing off of the parent organism. The new organism has the same genetic material as the parent.

Ex.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - When special cells at the site of a wound or lost limb become different types of tissues. This can act as repair or **Asexual Reproduction.**

Ex.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

So what is the main difference in Sexual reproduction and Asexual reproduction?